

N60138.AR.003005  
FISC WILLIAMSBURG  
5090.3a

LETTER AND U S EPA REGION II COMMENTS TO DRAFT SITE INSPECTION REPORT  
SITE 77 OLD DUPONT DISPOSAL AREA FISC WILLIAMSBURG VA  
11/2/2011  
U S EPA REGION III



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION III  
1650 Arch Street  
Philadelphia, Pennsylvania 19103-2029**

November 2, 2011

Ms. Krista Parra  
NAVFAC MIDLANT, Building N-26  
Hampton Roads Restoration Product Line, Code OPHREV4  
9742 Maryland Avenue  
Norfolk, VA 23511-3095

Subject: Draft Site Inspection Report for Site 7-Old DuPont Disposal Area. September 2011.

Ms. Parra:

Thank you for the opportunity to review the subject document. EPA would like to provide the following comments at this time.

EPA RPM Comment 1: 15-20' of shoreline eroded in to the river. See BTAG Comments.

EPA RPM Comment 2: Step 2b. It is hard to make some of these more realistic assumptions with the limited amount of data at the SI Stage (comparatively to the RI). COPC identified during the PA/SI risk screening (vs RSL and 95% UTL/UCLs) should be carried through and sampled for during the RI. Risk management decisions can then be made on the larger dataset of the RI.

EPA RPM Comment 3: Page 2-1. It is strange to use a supplemental background dataset when we have an approved background dataset. It also makes it somewhat unclear which background dataset was used for screening. In this case, I don't believe the "site specific" background has undergone the proper statistical analysis to be used as a background dataset.

EPA RPM Comment 4: Page 3-2. Is it correct to say no MEC were discovered at the site? Also, the details of the removal are not clear. Was it only surficial dumping of munitions? Was there any sort of GPR done to determine if MEC was BGS?

EPA RPM Comment 5: Page 3-2. 2,3,7,8 TCDD? Was this a specific congener analysis? Or was this a full dioxin analysis where a TEQ was calculated?

EPA RPM Comment 6: Page 3-4. Chromium. Chromium should be carried through as a COPC. Risk management decisions can be made as part of the RI.

EPA RPM Comment 7: Page 3-5. Section 3.2.4. Ecological Risk Screening. I generally don't agree with the idea of assuming it has been diluted as the reason for not sampling. Decisions made at the site should be scientifically defensible. See BTAG Comments.

EPA RPM Comment 8: Page 3-6. Section 3.3 Site Specific Background. I was not able to find any data from wells MW-1 and 2. Please include this data on table 3-4 or indicate why it was not included.

EPA RPM Comment 9: Page 3-8. Section 3.4.2. I generally don't agree that COCs exceeding risk screening levels and 95% UTL/UCL of background should be screened out at the SI stage.

EPA RPM Comment 10: Page 3-9. It is highly unlikely that the dioxin detected is attributable to forest fires and more likely attributable to the ash layer at the site.

EPA RPM Comment 11: Page 3-10. RDX should be looked at further upgradient from the Site 7 background well.

EPA RPM Comment 12: Page 3-10. Chloroform should be considered site related since other CVOCs are present at the site (TCE).

EPA RPM Comment 13: Page 3-10. Pesticides. Was the background detection in the sites specific background wells or in the actual background study?

EPA RPM Comment 14: Was the backfill certified clean fill or was it from an onsite source?

EPA RPM Comment 15: Page 3-13. Please see BTAG Comments on using mean HQs.

EPA RPM Comment 16: Page 3-14 and 3-15. Please see BTAG Comments on using the mean.

EPA RPM Comment 17: Page 3-16. Naturally occurring chloroform. See EPA RPM Comment 12.

EPA Tox Comment 1: **Section 2.2:** It would be helpful to note that the 2011 soil sampling effort focused only on pH measurements (rather than chemical analyses) because extensive confirmatory sampling (TCL/TAL/dioxin) had been performed in 2008 (as reported in Table 2-1 of the report), and was considered for this SI.

EPA Tox Comment 2: **Appendix A:** For chemicals like arsenic, where non-cancer endpoints dominate as the upper end of the cancer risk range is approached, a non-cancer evaluation of risk should also be performed.

EPA BTAG General Comment: One of the recurring issues noted in the review is the use of mean concentrations when assessing risk. It must be noted that EPA ecological risk assessment guidance clearly states that “For the screening-level risk assessment, the highest contaminant concentrations measured on the site should be documented for each medium.” It also clearly states that “Risk is estimated by comparing maximum documented exposure concentrations...” Region 3 BTAG uses mean concentrations to better understand the nature of contamination and potential exposure at a site; other uses are generally not appropriate or accepted.

EPA BTAG Comment 1: Section 3.2.4 provided a screening evaluation of soil concentrations to sediment screening levels to assess the potential risk from soil that had eroded into the York River as a result of Hurricane Isabel in 2003. The evaluation concluded that unacceptable ecological risks in the York River from potential historical soil transport from the site are very unlikely. It is unclear why this approach was taken. It would be more appropriate to sample sediment in the York River as a more direct measure of what eroded from the bluff into the river. The screening evaluation is not sufficient to eliminate potential contamination in the York River from further consideration. It is not clear from the soil samples collected that the highest concentrations were detected as sampling was very limited. The volume of contaminated soil would also be an important factor in concentrations that would result in the river. This approach also does not consider historical soil or contaminants that may have been transported into the river. BTAG recommends that sediment samples be collected in the York River to better assess this migration pathway.

EPA BTAG Comment 2: Section 3.2.4 on page 3-5 discusses the ecological risk screening that was performed at the site. The soil data used in this analysis was from the top two feet of fill material as these samples were collected in 2011 for pH analysis. It is still not clear what the date (pre-hurricane Isabel (2003), 2004, 2008 post removal, 2011) or the depth (backfill, 0 to 24 inches, 0-6 inches) of the soil samples were that determined contaminant concentrations used in this report. Indicate if any confirmation wall and floor samples were collected and analyzed during the removal action at this site. If so, it would be helpful to include these data in this report.

EPA BTAG Comment 3: Section 3.2.4 on page 3-5 states that when evaluating ecological risk, “The initial COPCs [contaminants of potential concern] were then evaluated using more realistic assumptions to select refined COPCs.” It is premature to refine exposure assumptions to less conservative levels and eliminate chemicals from further consideration at this point in the risk assessment process.

EPA BTAG Comment 4: Section 3.2.4 on page 3-6 states that “Buried debris has subsequently been removed from the site, and the potential for future contaminant migration via erosion or surface runoff to sediment is no longer a complete pathway.” This statement is not supported by the facts that the site is still adjacent to the York River and is still subject to the effects of hurricanes (Hurricane Isabel in 2003 eroded 15 to 20 feet of shoreline from Site 7). This supports the future possibility of erosion of Site 7 and any associated contaminants onto the beach and into the York River.

EPA BTAG Comment 5: Section 3.2.4 on page 3-6 states that because of the continual erosion (e.g., net loss of sediment from the vicinity of Site 7) documented by the Center for Coastal Resource Management, sediment data collected at present from along the Site 7 shoreline would not be useful in determining whether or not a CERCLA release occurred from Site 7. The location of the erosion in the York River needs to be more specific than in the vicinity of Site 7. The fact that erosion in the York River in the vicinity of Site 7 is continual does not mean that contamination from Site 7 may not be found. Also, the data shown to date does not indicate any sampling of the beach area between the landfill (Site 7) and the York River or of the sediment in the York River. Therefore, assessment of risk to ecological receptors within these habitats is based on assumptions and not site specific data. As stated previously, BTAG recommends that samples be collected from the York River to assess this pathway.

EPA BTAG Comment 6: Section 3.4.2 on pages 3-10 states that hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX) detected at the site is less than the concentration detected in the upgradient well and is not likely attributable to a release from buried debris. If the RDX in groundwater did not come from Site 7, a potential source may be present further inland. An investigation of upgradient areas may be warranted to identify other potential sources of RDX to groundwater.

EPA BTAG Comment 7: Section 3.4.3 on page 3-13 states that eight inorganic chemicals and one organic chemical exceeded screening levels based on maximum concentrations. The mean concentrations of six of the inorganic chemicals was less than screening levels, therefore it was concluded that these chemicals were not COPCs. It is not appropriate to eliminate chemicals based on the comparison to means at this phase of the project.

EPA BTAG Comment 8: Section 3.4.3 on page 3-14 states that the surface water values used to screen groundwater considered the salinity of the receiving water body (York River) to determine whether to apply freshwater or marine values. As such, marine values were used, where available, although freshwater values were extrapolated to the site if marine values were not available. Because the York River is brackish in the vicinity of the site, the lower of the marine and freshwater values should be used to evaluate impacts from discharging groundwater.

#### Appendix B – Ecological Risk Screening

EPA BTAG Comment 9: Section B.2 on page B-1 states “Soil screenings were conducted using all 2008 post-removal samples that were within the 0 to 24 inch depth range relative to the current (backfilled) site elevation; samples of the backfill material, however, were not included in the evaluation.” This statement is confusing. The data from the 0 to 24 inch depth either represents soil that is no longer present on site or represents backfilled material that is on site. In the former case, the data is no longer relevant to this site. In the latter case, the data is relevant, but soil data below this layer, particularly along the eroding edge of the landfill still needs to be evaluated for potential ecological risk.

EPA BTAG Comment 10: Page B-2, Section B.2 on page B-2 states "...ecological exposures are generally considered to be confined to the top two feet of the soil column." This approach may not be appropriate in areas susceptible to erosion. Since the eastern face of the landfill is eroding into the York River with the top of the landfill approximately 15 feet above the York River, the contamination on the eastern face of the landfill should be evaluated as this material may eventually erode in the river where ecological exposure would occur.

EPA BTAG Comment 11: Section B.2 on page B-2 states that background UTLs were used for comparison. The reasons for using UTLs, as opposed to UCLs, need to be provided. The text needs to clearly indicate why UTLs are used here and UCLs are used in Section B.3.2.

EPA BTAG Comment 12: Section B.3.3 on page B-5 states that nitroglycerine (0.23 µg/l) [no screening value available] was not retained as a refined COPC because its concentration was lower than marine based screening values for other explosives. It is not clear that this methodology is reasonable as not all explosives have the same toxicity. Other supporting evidence should be provided to support this decision.

#### Appendix H - Pre-TCRA Ecological Risk Screening

EPA BTAG Comment 13: Section H-1 on page H-1 states "The ecological risk screening for this potential soil to sediment pathway assumed that the concentrations in the pre-TCRA surface soil (0 to 6 inches) data from samples at the site perimeter adjacent to the river were an appropriate representation of the potential concentrations in the sediment." While this might represent the concentrations in the surface layer, it does not represent the concentrations throughout the vertical depth of the landfill.

EPA BTAG Comment 14: Section H.1 on page H-1 states "This historical pathway, which is no longer complete, following the completion of remedial action on the site, is the subject of the evaluation in this appendix." It is not clear if this historical pathway is the pathway in Appendix B or the transport of debris and soil from the site to the York River. In addition, it is not clear that this pathway "...is no longer complete".

EPA BTAG Comment 15: Section H.2 on page H-2 discusses the use of the ER-L and ER-M to evaluate risk in the river. While using ER-L and ER-M values as guidelines (meaning a 5% to 20% chance of risk if the concentration is below the ER-L or 75% to 100% chance of risk if the concentration is above the ER-M value) are appropriate, it is not appropriate to use the ER-M value as a "less conservative" measure of risk to ecological receptors as it means there is a 21% to 74% chance of risk if the contaminant concentration is between the ER-L and ER-M values. This percent of risk to ecological receptors is too large to calculate an acceptable HQ (see Table H-3).

EPA BTAG Comment 16: Section H.2 on page H-2 states that mean concentrations were used

as a less conservative screen. See previous comments regarding the use of mean concentrations

EPA BTAG Comment 17: Section H.3 on page H-3 (first bullet) indicates beryllium would likely be B-flagged if the data were validated. Support for this statement is needed.

EPA BTAG Comment 18: Section H.3 on page H-3 states “Consequently, the ecological risk evaluation determined that unacceptable ecological risks in the York River from potential historical soil transport from the site are very unlikely.” From the comments provided, it is not clear that this statement is supported, since no beach soil/sediment samples were collected and no sediment/pore water/surface water samples were collected and analyzed from the York River. Sampling in the York River is needed to more directly assess this pathway.

EPA BTAG Comment 19: Table H-4 shows exceedances of site soils as sediment. This table has two columns labeled “Marine Sediment Screening Value 1” and Marine Sediment Screening Value 2.” Clarification should be provided on how these values were derived.

In January 2011, BTAG provided comments to Susanne Haug, EPA on the responses to comments on the Sampling and Analysis Plan for this site. These issues were later discussed with her. Based on a review of sections of the above document, it is unclear that all of these previous comments have been adequately addressed. Those that appear to have not been addressed are included below.

EPA BTAG Comment 20: The Navy seems to be making a distinction between debris and contamination. While contamination may be associated with debris, it is also not necessarily visible and associated with sediment and surface water. The removal of debris from Site 7 and/or the shoreline/York River sediment does not mean that contamination from this site is not in areas adjacent to this landfill/dump.

EPA BTAG Comment 21: It is still not clear what contaminant concentrations still exist at this site, including both the landfill and the adjacent shoreline. It is not clear what stabilization activities took place to ensure future erosion of this edge of the landfill did not occur.

EPA BTAG Comment 22: How much erosion occurs in the vicinity of this site? More information is needed to better define/support use of the term “unlikely.” The net loss of sediment needs to be quantified on an annual basis, such that the reader can have an idea of how much sediment (mm, cm lost each year) is transported out of the Site 7 vicinity?

EPA BTAG Comment 23: Sampling of the shoreline and sediment in the York River is needed to confirm the assumption that it is unlikely that sediment data collected from along the Site 7 shoreline would be indicative of a CERCLA release at Site 7.

EPA BTAG Comment 24: The variability that does occur in contaminant concentrations in

sediment makes this conclusion of ecological risk being unlikely uncertain.

EPA BTAG Comment 25: Assessing ecological risk due to contaminated groundwater needs to involve sediment and surface water, at a minimum. Therefore, it is clear that this ecological risk screening will only deal with one of three contaminant migration pathways and not all three. Since sediment and surface water samples are not proposed in this SAP for groundwater, this analyses is needed to reduce uncertainty.

EPA BTAG Comment 26: Another issue that needs to be addressed is how much landfill (e.g., vertical feet, area) remains at Site 7 beneath the backfill material and what are the contaminant concentrations in that material that could be released through erosion. Also, how has the landfill edge facing the York River been stabilized such that erosion is minimized or eliminated?

EPA BTAG Comment 27: Sediment in the York River needs to be added to the media to be sampled because it is in the migration pathway from the site.

If you have any questions, please contact me at 215-814-3378.

Sincerely,

A handwritten signature in black ink, appearing to read 'J. Burchette', is written over a light gray rectangular background.

John Burchette  
Remedial Project Manager

cc: Wade Smith, VDEQ